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ADDENDUM NO. 1

TO CONTRACT DOCUMENTS FOR BANNACK STATE PARK FIRE ALARM

DATE 5/24/2018

This ADDENDUM supersedes the original SPECIFICATIONS and DRAWINGS dated; 4/27/2018 wherein it contradicts them; all other conditions remain unchanged.

Acknowledgment of receipt of this addendum is required.

ELECTRICAL

0.1 DRAWINGS

<u>SHEET</u>	<u>DESCRIPTION</u>
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E1.30E	Increased transformer size and added 20A outlet for Mill. See SKE-1.
E5.10	Add two 20A outlets in locations indicated. See SKE-2.
E5.00	Add 5A outlets at ASD location indicated. See SKE-3.

0.2 SPECIFICATIONS

Section 024121 2.1 C & 3.2.D.1 GENERAL SAFETY AND HISTORICAL SITE WORK,
Added details in regards to camping and Bannack park scheduling.

Section 260533 3.3.A.1-3 INSTALLATION OF UNDERGROUND CONDUIT, Added
requirements for underground conduit.

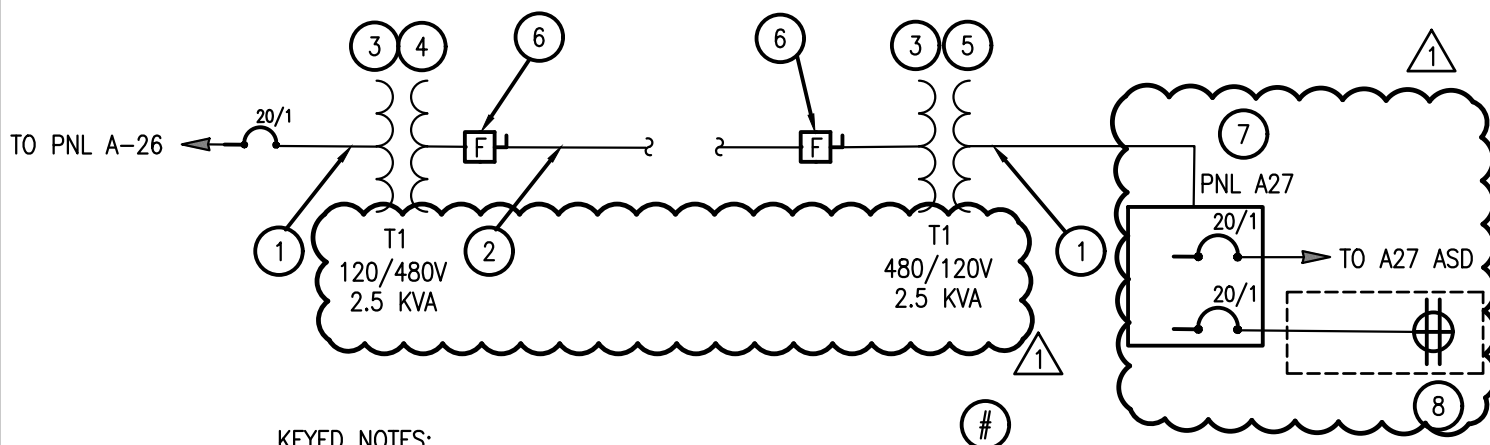
Section 280528 3.3.A.1-3 INSTALLATION OF UNDERGROUND CONDUIT, Added
requirements for underground conduit.

Section 280528 3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR
ELECTRONIC SAFETY AND SECURITY PENETRATIONS, Added requirements for sleeve
installations.

0.3 ATTACHMENTS

1. SKE-1
2. SKE-2
3. SKE-3
4. Prior approval 5/21/2018
5. Prior approval 5/22/1018
6. Pages 1, 3 Section 024121
7. Park Schedule
8. Pages 7-8 Section 260533
9. Pages 8-9 Section 280528

END OF ADDENDUM



KEYED NOTES:

1. 3/4" CONDUIT, (2) #10, (1) #10 GND.
2. 2" CONDUIT, (2) #8, (1) #8 GND.
3. TRANSFORMER T1 120V/480V 2.5 KVA 3R.
4. MOUNT OUTSIDE OF SHOP BUILDING ADJACENT TO THE FACP.
5. MOUNT ADJACENT TO ASD AT BUILDING A27.
6. 600V 2P 30A 5AFU 3R.
7. SUPPLY 3R RATED, 2 BREAKER PANEL MOUNTED ADJACENT TO ASD PANEL.
8. WR GFCI RECEPT IN W/P BOX AND METAL IN USE COVER W/LOCKABLE HASP

3 POWER TO MILL 120V/480V SCALE: NTS

DATE
5/24/2018

JOB NO.
7176901

SCALE
NTS

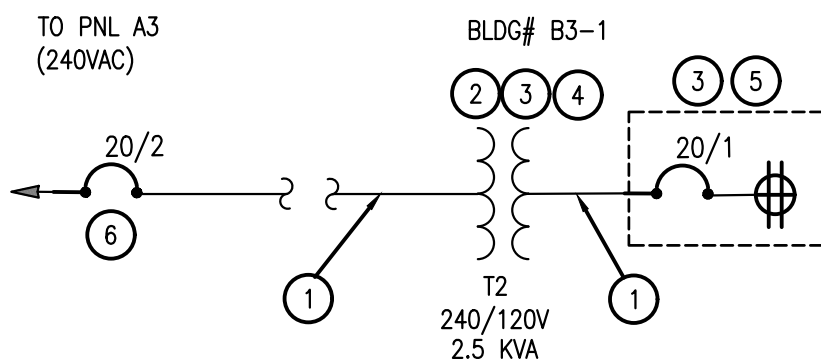
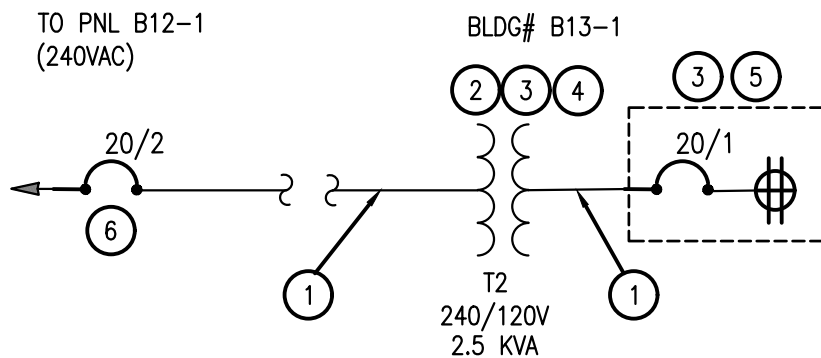
SKE-1

SKETCH NO.

REF. SHTS: E130E

**BANNACK FIRE ALARM
POWER UPGRADE TO MILL
BANNACK, MT**

**DC
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1 POWER TO REMOTE OUTLETS 240V/120V

SCALE: NTS

KEYED NOTES:



1. 1" CONDUIT, (2) #10, (1) #10 GND.
2. TRANSFORMER T1 240V/120V 2.5 KVA 3R.
3. MOUNT TRANSFORMER AND OUTLET A MINIMUM OF 10' FROM ASD ENCLOSURE.
4. INSTALL TRANSFORMER IN ACCORDANCE WITH NEC 450.14.
5. GE PART # U010C010; PROVIDE WITH 20 AMP CIRCUIT BREAKER.
6. PROVIDE PERMANENTLY MOUNTED CIRCUIT BREAKER LOCK OFF DEVICE.

DATE
5/24/2018

JOB NO.
7176901

SCALE
NTS

SKE-2

SKETCH NO.

REF. SHTS: E5.10

**BANNACK FIRE ALARM
POWER TO OUTLETS
BANNACK, MT**





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BANNACK FIRE ALARM

DC Engineering, P.C.
Specification Section: Electrical
Prior Approval Number: # E1
Reviewer: [Darin van Oosterhout](#)
Date: 5/21/2018
RE: [Electrical Prior Approval](#)

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the submittals during this review do not relieve the CONTRACTOR from compliance with the requirements of the plans and specifications. An opinion of equivalence of a specific item shall not be interpreted as an opinion of equivalence of an assembly of which the item is a component. Submittal review comments have been made within this format and not on the submittal sheets according to the following:

NEN – No Exceptions Noted
GCAN – Generally Conforms As Noted
RAN – Rejected for Reason As Noted
IAS – Incomplete As Submitted

Systems reviewed include: [Electrical](#)

Section 283111 DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

RA	POTTER	RA-6500F	NEN
SPEAKER/STROBE	POTTER	FASPKR/SPKSTR-24CLP	GCAN (Note 1)
COMMUNICATOR	POTTER	UD-1000	NEN
BASE	POTTER	PAD100-4DB/6DB	NEN
FACP	POTTER	IPA-4000	GCAN (Note 2)
FAPS	POTTER	PSN-1000(E)	GCAN (Note 3)
PULL STATION	POTTER	PAD100-PSSA/PSDA	NEN
SMOKE DETECTOR	POTTER	PAD100-PD	NEN
HORN/STROBE	POTTER	S-24 & HS-24	GCAN (Note 1)

Section 283115 ASPIRATING SMOKE DETECTION SYSTEM

ASD

VESDA

E VEP

NEN

NOTES:

1. Only allowed in climate-controlled buildings. Some devices in system must be weatherproof.
2. Contractor is responsible for adding required modules for 5 SLCs. Contractor is responsible to add any additional modules/equipment to meet all design specifications that has been prepared for the system.
3. Submitted item is larger than specified item. If used in ASD enclosure, Contractor is responsible for redesigning layout for components if needed. Changes to enclosure must be approved.



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BANNACK FIRE ALARM

DC Engineering, P.C.
Specification Section: Electrical
Prior Approval Number: # E2
Reviewer: [Darin van Oosterhout](#)
Date: 5/22/2018
RE: [Electrical Prior Approval](#)

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the submittals during this review do not relieve the CONTRACTOR from compliance with the requirements of the plans and specifications. An opinion of equivalence of a specific item shall not be interpreted as an opinion of equivalence of an assembly of which the item is a component. Submittal review comments have been made within this format and not on the submittal sheets according to the following:

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Section 024121 ELECTRIC POWER SYSTEM SPECIFICATION; 40KW GENERATOR SYSTEM

Generator	Kohler	50REZGC/4P8X	GCAN (Note 1,2)
ATS	Kohler	KCP-AFNA-0225S	NEN

NOTES:

1. Alternator must be sized and constructed appropriately to power a VFD supplying power to a 30 HP pump.
2. Must have factory trained service personnel on 24 hour call.

SECTION 024121 – GENERAL SAFETY AND HISTORICAL SITE WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Safety at historical sites.
2. Historical Site Preservation.

1.2 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1. The Generator and Automatic Transfer switch (ATS) are to remain the property of the Owner. Coordinate with Park management for relocation of old generator and ATS.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during operations remain the property of Owner.

PART 2 - SITE AREAS

2.1 SITE AREA REQUIREMENTS

A. The Park management will provide an area for project staging. This area will be used for contractor's equipment and material storage, vehicle parking and trash. The Contractor shall provide all security measures necessary to assure the protection of equipment, materials in storage, completed work, and the project in general. Contractor is responsible for providing their own toilet facilities and removal of all trash from the construction site. The use of the Owner's trash receptacles is prohibited. The Contractor is to coordinate with Park management for appropriate staging areas and camping areas. The Contractor is responsible for providing fencing or barriers to prevent the public from having access to staging and storage areas.

B. Typical work day is Monday – Friday, 8AM to 5PM. Work that is conducted outside of this time frame must be pre-approved by Park Management.

C. On-site camping will only be allowed at the discretion of the Park management. Camping in fee areas is prohibited and no services will be provided. Camping will be limited to 2 self-contained recreational vehicles in an approved location above the staging area. Utilities, showers, or septic dump will be not be provided. Separate trash and sanitary facilities shall be provided by Contractor. No open fires will be allowed. Off-site camping is the responsibility of the Contractor and must be arranged in advance with the appropriate landowner.

ADDENDUM 1

- B. Trenching: For historical sites, minimal disruption is a high priority. All trenches have been designed to be a maximum of either 24" or 12" in width. These dimensions were used during archeological surveying.
1. The Contractor must obtain prior approval for any trench that is greater in dimension than what is called out in the drawings.
- C. Uncovered Artifacts: For historical sites, there is a likely probability that artifacts will be uncovered during trenching or excavation.
1. If an artifact is uncovered, the Contractor is responsible to immediately notify the Park management or onsite archaeologist.
 2. In the case of an uncovered artifact, the Contractor is expected to move ahead to another work area after notifying the proper personnel. Onsite archaeologist will need approximately 2-4 hours to carefully excavate the artifact.
 3. It is at the archaeologist or Owners discretion on when work can resume in the area of where the artifact was uncovered.

ADDENDUM 1

- D. Temporary Protection: Provide temporary barricades, signs and other protection required to prevent injury to people and damage to adjacent buildings and facilities.
1. The Park will remain open to the public during construction. Park management must be notified and updated on a routine basis as to scheduled closing and reopening of work areas. To the extent practical, Work shall be scheduled to minimize impact to the public. A list of events currently scheduled within the Park is attached; additional events may be added and it will be necessary to coordinate Work within certain buildings to accommodate schedules. No work will proceed prior to July 30 due to Bannack Days
 2. Provide protection to ensure safe passage of people around selective work area and to and from occupied portions of building.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective operations.
 4. All trenching shall have appropriate orange fence barriers. All trenching work shall be approved by the Park management in advance to reduce conflict between the work of trenching and ground work with the operation of the historical site. Open trench lengths shall be kept to a practical minimum. Measures shall be taken to prevent public access to work area.
- E. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of the building that is being worked on.
1. The design for work in the buildings is, for the most practical degree, for an installation that would be possible with the least amount of hazard to the worker and the least likelihood of damage to the building. Historic buildings are fragile and contractors care is imperative.
- F. Remove temporary barricades and protections where hazards no longer exist.

BANNACK STATE PARK
2018 Tentative Schedule of Events
bannack.org

Events Subject to Change - Please Call Ahead Prior To Your Visit
(406) 834-3413

MONTH	DAY(s)	EVENT(S)
January	20	<ul style="list-style-type: none"> • Park Winter Hours in Effect – 8:00 am – 5:00 pm. • Ice Skating on the Bannack Pond (weather permitting). • Skates available and warming house open weekends 10:30 am - 4:30 pm. • Annual Bannack Association Meeting and Dinner at 5:30 pm – 8 pm at U of M Western. • Biannual Hanging Re-enactment at Bannack 2 pm.
February		<ul style="list-style-type: none"> • Ice Skating on the Bannack Pond (weather permitting), Weekends 10:30 am-4:30 pm.
March	12	<ul style="list-style-type: none"> • Park Hours 8 am – Sunset. • Skating Pond closes as weather dictates.
April		<ul style="list-style-type: none"> • Educational school tours begin.
May	1-25 12 18 26	<ul style="list-style-type: none"> • Visitor Center will be open on weekends. 11 am - 5 pm. • Tipi available for rent on line at stateparks.mt.gov or call 1-855-922-6768. • Educational school tours continue. • Bannack Clean-up Day. • Peak Season Camping Fees go into effect. • Guided Tours Start. • Summer Park Hours Begin 8:00 am – 9:00 pm. Visitor Center open 10 am – 6 pm (every day).
June	20	<ul style="list-style-type: none"> • Saturday Series Start & Guided tours continue. • National Trails Day Hike-10:00 am.
July	14 21-22	<ul style="list-style-type: none"> • Saturday Series & Guided tours continue. • Weed Day. • <u>BANNACK DAYS.</u> • An annual celebration of pioneer life, skill demonstrations, music, shoot-outs, wagon rides, food and more.
August		<ul style="list-style-type: none"> • Saturday Series & Guided tours continue.
September	(1-3) (3-30) 3 8 13-16 29 30	<ul style="list-style-type: none"> • Visitor Center open 10a m – 6 pm. • Visitor Center open 11 am – 5 pm. • Final guided tours of the season. • Annual Meeting Bannack Historic Masonic Lodge 7-7-77. • Bannack's Living History Event. • Public Lands Day Hike. • Tipi rental season concludes.
October	(1-31) 15 26-27	<ul style="list-style-type: none"> • Visitor Center open weekends 11am – 5pm. • Park Winter Hours Begin: 8:00 am – 5:00 pm. • Bannack Ghost Walks 7pm and 9pm historic/hysteric tour of Bannack at night - reservations required.
November		<ul style="list-style-type: none"> • Visitor Center closed for the season (open by appointment).
December	24-25 26	<ul style="list-style-type: none"> • Park closed on for Christmas Holiday. • Ice skating pond opens 10:30 am – 4:30 pm (weather permitting).

- Q. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 2. Where an underground service raceway enters a building or structure.
 3. Where otherwise required by NFPA 70.
- R. Expansion-Joint Fittings for RNC: Install in each run of aboveground conduit that is located where environmental temperature change may exceed 30 deg F, and that has straight-run length that exceeds 25 feet.
1. Install expansion-joint fittings for each of the following locations, and provide type and quantity of fittings that accommodate temperature change listed for location:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces: Connected with the Outdoors without Physical Separation: 125 deg F temperature change.
 - d. Attics: 135 deg F temperature change.
 2. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change.
 3. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 4. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at the time of installation.
- S. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
1. Use LFMC in damp or wet locations subject to severe physical damage.
 2. Use LFMC in damp or wet locations not subject to severe physical damage.
- T. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- U. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between the box and cover plate or the supported equipment and box.
- V. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- W. Locate boxes so that cover or plate will not span different building finishes.
- X. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- Y. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- Z. Set metal floor boxes level and flush with finished floor surface.
- AA. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.
- BB. Circuit identification: Provide circuit numbers on the inside of all boxes for all circuits contained therein. For boxes concealed above accessible ceilings or exposed in unfinished areas also provide circuit numbers marked on the box cover. Use permanent ink marker.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit.
 - a. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - b. For pipes and conduit less than 6 inches in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference.
 - c. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 - d. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course. Bottom of trench to be free of rocks larger than $\frac{3}{4}$ ".
2. Backfill trenches up to 6" above conduits with material free of rocks larger than $\frac{3}{4}$ ". Larger rocks and remaining material can then be backfilled. Provide compaction to within 5% of undisturbed ground.
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling.
4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through the floor, unless otherwise indicated. Encase elbows for stub-up ducts throughout the length of the elbow.
5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose,
 - b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
6. Warning tape: Install printed Caution tape in the backfill above buried electrical 12" below grade.

3.4 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping."

END OF SECTION 260533

- temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
 - d. Attics: 135 deg F temperature change.
 3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
 4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- R. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
- S. Mount boxes at heights indicated on Drawings according to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- T. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:

ADDENDUM 1

1. Excavate trench bottom to provide firm and uniform support for conduit.
 - a. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - b. For pipes and conduit less than 6 inches in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference.
 - c. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 - d. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course. Bottom of trench to be free of rocks larger than $\frac{3}{4}$ ".
2. Backfill trenches up to 6" above conduits with material free of rocks larger than $\frac{3}{4}$ ". Larger rocks and remaining material can then be backfilled. Provide compaction to within 5% of undisturbed ground.
3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide

- maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling.
4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through the floor, unless otherwise indicated. Encase elbows for stub-up ducts throughout the length of the elbow.
 5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 - a. Couple steel conduits to ducts with adapters designed for this purpose,
 - b. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
 6. Warning tape: Install printed Caution tape in the backfill above buried electrical 12" below grade.

3.4 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- C. Field cut openings for conduits according to enclosure manufacturer's written instructions.

ADDENDUM 1

3.5 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRONIC SAFETY AND SECURITY PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. All penetrations shall be weatherproof. If penetrations are in fire rated walls, penetrations are to maintain fire rating.

3.6 FIRESTOPPING

- A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.7 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.

END OF SECTION 280528